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ABSTRACT

Technology, software, and design activities that have been used to create presentations for a class in visual literacy taught to graduate students in the instructional technology program of Northern Illinois University are described. In the past, the language of visuals was introduced through a slide and tape produced for the class. An additional method of exemplifying and practicing the terms associated with visual literacy that is now being implemented is the use of a visual database and a computer-assisted lecture and discussion. An exercise in visual problem solving has been developed into a computer mediated-lecture and discussion. In addition, students add to the visual database themselves by locating frames on videodisc, scanning materials or video-digitizing images, and preparing their own class presentations. Visuals can be derived from computer-generated images, digitized images, video files, and analog storage. Exercises in locating, generating, and selecting a series of visuals would provide examples for much of the language of visual literacy. Three figures illustrate the discussion. (Contains 6 references.) (SLD)

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Merging Art and Technology: Computer Mediated Teaching

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Merging Art and Technology: Computer Mediated Teaching

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For the past several years, the I.V.L.A. Conference has included presentations on the teaching of Visual Literacy concepts and skills. (See the *Readings*, 1991,1990.) Several teachers and scholars have shared their ideas and practices in the teaching of visual literacy to both undergraduates and graduates students. Their syllabi have included readings, "sense walks", personal symbols, film analysis, and critical television viewing activities. Many media samples have been shared, especially the creation of video and film production. Anyone starting to teach visual literacy could benefit from the information shared in these symposia.

This presentation is a continuation of that sharing of teaching ideas. The paper/demonstration and handouts are designed to encourage instructors to add computer mediated lecture/discussion and visual databases to their instructional repertoire. We believe this method helps provide students learning the concepts and vocabulary of visual literacy visual examples from a variety of sources.

This paper summarizes the presentation and gives some details of the technology, the software, and the design activities which we have used to create our first mediated presentations for the Visual Literacy class taught at Northern Illinois University to graduate students in the Instructional Technology program.

In the past, we have introduced the language of visuals by using a slide/tape produced by the Center for Huymanities called *Learning to See and Understand* (1973). Vocabulary exemplified in the slide/tape includes these terms: color, shape, line, light, texture, pattern, perspective, point of view and angle, size framing, motion, sequence, juxtaposition. Often, we have students practice the identification of these terms through the examination of print ads and photography, through magazines and posters. An additional method of exemplifying and practicing these terms is using a visual data base and a computer aided lecture/discussion. With a large number of visuals available, and an organized lecture/discussion, students are given the opportunity to practice the terms and see them illustrated several times, until their questions are resolved.

We have also used this method to present the ideas and visual renderings of the book *Picture This*, by Molly Bang (1991). Using the bold drawings and shapes from the book, students are lead through the concepts of the book, and can experience them together as a class. The ideas are reinforced and their

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readings and understanding of the ideas is a shared activity.

A third lesson developed into a computer mediated lecture/discussion is one of the exercises in visual literacy and visual problem solving. Again the exercise presented in this manner allows the whole class to participate and practice problem solving.

Visual literacy materials and teaching techniques have been developed using the more traditional media of film, photography, television or video. This course has expanded to introduce the computer as both a presentation tool and a reinforcer of new ideas. The next step will be to have students add to the visual data base themselves by locating frames on videodisc, scanning materials or video digitizing images for the collection. The students feel certain that they can add to the instruction and practice their skills at the same time through such an activity. In time, they will be able to plan and execute their own class presentation using the data base materials and the format we've modeled.

In this way, we will be adding another encoding requirement to a course that has previously been primarily a "decoding" experience. The definition of visual literacy includes both the encoding and the decoding of visual communications, and we feel confident that the new practice and performance requirement of the instructor and the students will benefit everyone and raise their own levels of expertise in becoming more visually literate. Essentially we have reviewed what we are doing in the realm of visual literacy instruction. Now we will provide some of the how we are doing this.

The visual literacy curriculum is a fluid dynamic curriculum, adapting itself to be an integrated skill that, like reading, crosses curriculum lines. Visual literacy is, of course, best taught by visual examples, yet because of the fluid and expansive nature of visual literacy, examples are difficult to organize and maintain:

- visuals become mixed up
- one example is rarely enough
- students may have limited access to visual examples

The basic ingredient for computer support of teaching visual literacy integrated throughout the curriculum is a visual data base of visual examples.

By using object oriented programs, such as LinkWay, Toolbook and Hypercard, we can create control programs to organize and display examples. Such programs offer the perfect vehicle for organizing and presenting our visual examples. Information frames are created with action buttons to display the desired examples. These action buttons simply direct the program to display the requested visual from any of the available sources.

Conceptually the process is very straightforward. Visual examples are stored in some electronic format. Computer programs are developed to allow access and control of presentation of these visuals.

Three obvious questions arise.
- Where does one get electronically stored visuals?
- Where does one get programs for accessing these visuals;?
- What is needed to display the visual as part of a course?

Sources of visuals for computer mediated delivery:

There are currently three basic types of electronic visuals. The first are those generated by the computer. These would include anything done from a paint package, an art program, computer aided drafting programs, and even scanned images. No longer second class graphics, computer generated graphics are now recognized as a powerful and professional media.

The second type of electronically stored visuals are digitized images. Digitizing requires a source, either an object or a visual. Digitizing is the process of...

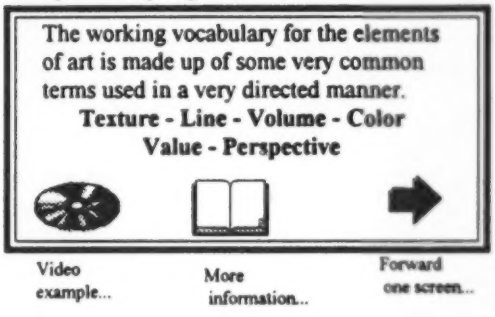
The third type of electronically stored visuals are from video files or analog storage. Analog visuals are a true picture of the object. The analog image is still the clearest depiction of anything in the real world.

The size of electronic files defines how these images are stored and made available. Computer generated images can be stored on disk for transport and future access. The more complex the drawing is though the larger the file. Digitized images easily exceed the size of a disk so they are more frequently being offered as CD ROM collections and lastly the laser disk is used for video images.

Electronic Visuals:	
Format	Storage
- computer generated	- disk based
- digitized	- cd rom
- analog	- laser video disk

The Control Program:

Sample of a program screen


The working vocabulary for the elements of art is made up of some very common terms used in a very directed manner.
Texture - Line - Volume - Color
Value - Perspective
Video example...
More information...
Forward one screen...

As stated earlier, object oriented programs are easy to use and can easily be changed. Once information screens are constructed, action buttons are added (quite literally, pasted in from the program) to accomplish some task. Linkway Live comes with over 30 preprogrammed buttons ready to be applied. Templates allow teachers or students to enter their own actions and tie in their own examples.

Equipment Necessary:

MS DOS:
- 386 or faster machine (although delivery can be from slower machines, it is often a long wait for complex graphics.)
- VGA or better graphics
- VGA card with one meg. of ram on the card (this aids in the display time).
- Adequate disk storage (100 mg or better)
- Television receiver for video generated graphics
- LCD screen to project the visuals from the computer

Software

MS DOS:	Mac:
LinkWay Live	HyperCard
Toolbook	

Why Bother:
Visual Databases in Teaching:

- To learn students must practice. They must be guided through the simplest task to more complex tasks. By setting up visual databases and control programs we can gear our examples to the working level of our students. We can also offer more examples when it seems appropriate.

Example: When first learning the working vocabulary of visual literacy, simple scanned line drawings offer solid examples. As the students progress and become more comfortable with the vocabulary, more complex drawings are programmed into the action buttons.

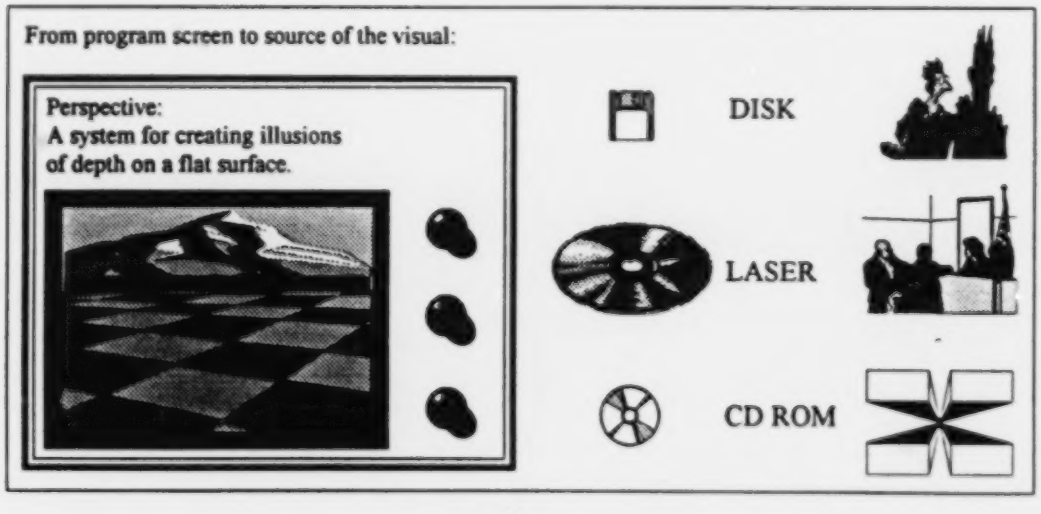
- To learn students need to work with pertinent examples. Often the subject matter is so removed from the students, the struggle is not with the newly developing skill of using a visual vocabulary but in understanding the visual they are being asked to evaluate.

Example: Simple scanned drawings of automobiles offer some youngsters the interest level to use new vocabulary.

- To guide and teach we need to be efficient with our own time. Developing and incorporating a series of visuals for a standard lesson and integrating visual literacy into that lesson is being efficient both in the use of our time and the learning time.

Example: Locating, generating and selecting a series of visuals for a unit on the Civil War would result in a series of visual examples for much of visual literacy's language. Remember too, almost any projected visual can be used in the area of desk top publishing so the visual for the history lesson could be used for the visual literacy lesson and incorporated into written lesson materials.

We have presented the background to and processes of creating and using computer mediated lecture/discussion as a new teaching technique. With this introduction, one should be able to investigate and consider further uses of these ideas in teaching visual literacy or in preparing visuals for integration into many subject areas.



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